

STEVAL-ISA095V1

Up to 3 A step-down switching regulator based on the ST1S14

Data brief

Features

- 3 A DC output current
- Operating input voltage from 5.5 V to 48 V
- 850 kHz internally fixed switching frequency
- Internal soft-start
- Internal current limiting
- Inhibit for zero current consumption
- 2 mA maximum quiescent current overtemperature range
- Thermal shutdown
- RoHS compliant

Description

The STEVAL-ISA095V1 demonstration board is designed to provide an evaluation platform for testing the ST1S14, a step-down monolithic power switching regulator capable of delivering up to 3 A of output current. The high current level is possible thanks to an HSOP8 package with exposed frame.

The output voltage can be set from 1.22 V. An internal oscillator fixes the switching frequency at 850 kHz.

A Power Good open collector output validates the regulated output voltage as soon as it reaches the regulated level.

Pulse-by-pulse current limiting offers effective constant current short-circuit protection, while the current foldback decreases overstress in persistent short-circuit conditions.



Schematic diagram STEVAL-ISA095V1

Schematic diagram 1

PGOOD 100 nF 0 ST1S14 U1 L1 8.5 μH V_{OUT} BOOT SW 0 V_{IN} 7 0 V_{IN} R3 47 KΩPGOOD 5 EN2 R1 4.7 KΩ 3 EN1 FB GND C5 СЗ D1 100 μF $10\,\mu F$ 100 nF STPS3L60U R2 ↓ _{2.7 KΩ} Small signal GND GND 0 0

Power plane

Figure 1. STEVAL-ISA095V1 circuit schematic

AM07597

STEVAL-ISA095V1 Revision history

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
23-Dec-2011	1	Initial release.

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